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AGRI-ENVIRONMENTAL PROGRAMME ÖPUL 2015 AGRICULTURE, ENVIRONMENT AND NATURE

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ECO-FRIENDLY FARMING – COMPENSATION FOR ENVIRONMENTAL SERVICES

ENVIRONMENTALLY COMPATIBLE AND SUSTAINABLE AGRICULTURE, which uses natural resources sparingly, is a hallmark of Austria's vibrant rural areas and of a country worth living in. Our family-run farms form the backbone of area-wide agriculture capable of efficient production. They are a model for the future, pointing the way to sustainable development in the agricultural sector. My agricultural policy pays specific attention to the maintenance of such agricultural structures and their economic viability.

With ÖPUL, Austria's Agri-environmental Programme, we have been setting priorities for the protection of biodiversity, the preservation of fertile soils, the provision of pure water and for climate protection for two decades. The path towards organic farming, which Austria chose early on, has proved to be very forward-looking and is seen today as a role model for many other countries. The high level of participation of agricultural holdings in ÖPUL, from the very beginning, shows that our farmers attach great value to environmentally responsible farming, and are determined to manage their farms according to these principles.

The new and meanwhile fifth ÖPUL (available since 2015) offers a broad variety of targeted measures. The new ÖPUL measures form a solid basis, ensuring ecological and area-wide agriculture in Austria, which supplies us with food of the highest quality. At present, we are witnessing a growing awareness in our society of environmentally sound agricultural production, which we have been seeking to address with ÖPUL measures for many years. It is a great matter of concern to me to develop this positive trend further and to support it effectively.

The guiding principle of my agricultural policy is therefore geared to two central aspects: to ensure that our farmers receive appropriate and fair compensation for their services, and to provide a forward-looking policy which works on joint solutions, encourages innovation and creative ideas, and gives priority to the sustainable coexistence of mankind and the environment.



ANDRÄ RUPPRECHTER Federal Minister of Agriculture, Forestry, Environment and Water Management



ÖPUL FOR THE ENVIRONMENT AND SOCIETY

OUR FAMILY-RUN FARMS and their modern, sustainable and area-wide agriculture make an essential contribution to Austria's viable rural areas and high quality of life. In Austria, agricultural management practices that are active, competitive and, at the same time, use natural resources sparingly help to ensure long-term food security based on high-quality foods, the tending and preservation of cultivated landscapes rich in biodiversity, and protection against natural hazards.

The Agri-environmental Programme (ÖPUL), Austria's programme for the promotion of an agricultural management system which is environmentally compatible, extensive and protective of natural habitats, plays a significant role in ensuring the sustainable management of natural resources and the preservation of Austria's cultivated landscapes rich in species and structural diversity by granting payments to farmers for environmental services. Wild-flower strips along field boundaries, for example, which are created in the context of ÖPUL, serve biodiversity and genetic diversity just as much as they invoke enjoyment in those seeking recreation. Farming the alpine pastures and mountain areas is a major factor in preserving the cultivated landscape and contributes essentially towards protecting against natural hazards. At the same time, such services are of inestimable value for tourism and nature conservation. Incentives to encourage waterfriendly management practices promote innovative systems of land management and help to ensure high-quality drinking water. Landscape features and targeted nature conservation measures provide habitats for birds, insects and butterflies and enrich the cultivated landscape.

Austria's Agri-environmental Programme (ÖPUL) pursues an integral and horizontal approach and seeks to achieve maximum participation of agricultural holdings across all nine Federal Provinces. Farmers taking part in ÖPUL receive financial compensation for services they provide in addition to the statutory requirements and that are subject to different management requirements in the interest of the environment, of animals and climate protection. This not only raises the farmers' awareness of environmentally sound agricultural production methods, environment protection and nature conservation matters, it also supports farmers in making a deliberate choice in favour of sustainable agricultural management.

20 YEARS OF ÖPUL: TAKING STOCK

ÖPUL, Austria's Agri-environmental Programme, was offered the first time on the occasion of Austria's accession to the European Union in 1995. As there had been various measures promoting ecological farming before that, some were seamlessly incorporated into the ÖPUL. From the very beginning, the key focus in Austria was on areawide and environmentally compatible management of farmland. Up until 1999, the Agrienvironmental Programme was an independently run programme. With the reform of the European Union's Common Agricultural Policy in 2000, ÖPUL was merged together with other measures, such as mountain farmer support, educational measures or investment promotion schemes, into the Austrian Programme for Rural Development.

ÖPUL 2015 is currently Austria's fifth Agrienvironmental Programme. Over the past twenty years, there have been some major changes in the general statutory and economic conditions, as well as in the demands which society places on agriculture. In the course of the years – from ÖPUL 95 to ÖPUL 98, from ÖPUL 2000 and ÖPUL 2007 to the latest ÖPUL 2015 programme – the programme contents were developed further, and adjustments were made to the strategic orientation and the content-related processing. Raising the level of legally required environmental standards impacts the Agri-environmental Programmes, because only those activities are eligible in terms of ÖPUL which exceed the legal minimum of requirements. On account of the higher requirements, e.g. concerning the application of plant protection products, the integrated production ÖPUL measures, offered since 1995, can no longer be provided in ÖPUL 2015.

The participation rates in ÖPUL, which – all things considered – have remained high, demonstrate the great willingness exhibited by Austria's farmers to employ environmentally compatible management systems, even though there has been a certain trend towards free market orientation, with as few additional obligations as possible, has been observed in recent years. In 2015, a total of 91,137 agricultural holdings participated in ÖPUL, which is approx. 80 percent of the farms recorded in the IACS (Integrated Administration and Control System). The total area of land for which ÖPUL support was granted in 2015 was 1.75 million hectares (without alpine areas), which equals a share of around 77 percent of agriculturally used areas (without alpine pastures). With this high level of participation in its Agri-environmental Programme, Austria has positioned itself as one of the leading EU Member States. In total, 382.7 million euros were paid for services in the context of ÖPUL in 2015.



* Data estimated for 2016

ENVIRONMENTAL OBJECTIVES OF THE AUSTRIAN AGRICULTURAL POLICY

ENVIRONMENTALLY SOUND

LAND MANAGEMENT is a key objective of the European agricultural policy. The higherranking objectives of the Common Agricultural Policy (CAP) date back to the Treaty Establishing the European Economic Community (EEC Treaty) of 1957 and can still be found, more or less identical, in the Treaty on the Functioning of the European Union (TFEU). The CAP objectives comprise the following: to increase agricultural productivity by promoting technical progress and ensuring the optimum use of the factors of production, in particular labour; to ensure a fair standard of living for farmers; to stabilise markets; to ensure the availability of supplies; to ensure reasonable prices for consumers. Accordingly, the CAP objectives primarily comprise both economic and social aspects and do not immediately suggest any consideration of the ecological dimension. This may be because these objectives were formulated in the founding years of the EU (EEC), at a time when priority was given to securing the population's food supplies. In the EU's real agricultural policy, however, the protection of resources resp. sustainability has been playing a fundamental role as a cross-cutting topic for decades.

The guiding principle of the Austrian agricultural policy is small-farm agriculture which is competitive, environmentally sound and area-wide. The objectives of the Austrian agricultural policy are laid down in the Agriculture Act of 1992. With regard to the CAP objectives, it aims to preserve a viable, economically sound, farm-based and socially oriented agriculture in an intact rural area. Further goals are to promote manifold earning and employment combinations between agriculture and other sectors; to support agriculture to enable it to balance natural disadvantages; to encourage market-oriented production, processing and marketing; to safeguard optimum supply of the population with high-quality food and products and the natural assets of soil, water, and air and to preserve and shape the cultivated and recreational landscape.

Since its very beginning, the EU's Common Agricultural Policy has undergone several reforms. To achieve the CAP objectives, two central instruments have been available since 2003. On the one hand, the basis for competitive agricultural production and corresponding income from agricultural activities is provided by direct payments (CAP Pillar I), fully financed by the Community. Over the years the direct payments were increasingly also linked to meeting environmental requirements, such as cross compliance, i.e. maintaining environment, food safety and animal protection standards, as well as greening, i.e. specific crop rotation requirements in terms of crop diversification, preserving permanent grassland and dedicating arable land to ecological focus areas.

Introduced as the second central instrument, rural support programmes, co-financed by the EU, are intended to support the sustainable development of rural regions. Such support programmes may provide measures that benefit agricultural and forestry holdings, processing and marketing operations, as well as other players involved in regional development. The 2014-2020 Austrian Rural Development Programme covers fifteen national promotion measures, four of which are implemented under ÖPUL 2015.



REWARDING FARMERS FOR ADDED ENVIRONMENTAL SERVICES

Austria's agriculture is characterised by smallscale structures and family-run farms, which produce high-quality food products. Land cultivation primarily aims at the production of private goods such as cereals, dairy products, meat, vegetables or biomass. At the same time, agricultural activities create and preserve valuable ecosystems and help to maintain the cultivated landscape as well as biodiversity. This requires management practices that are appropriate to the locality and, quite generally, the maintenance of land utilisation, particularly in mountainous areas.

The discontinuation of land management at a certain location can lead to the loss of open and well cared for cultivated landscapes through the spread of woodland and scrub. This results in declining populations of animal and plant species that depend on land management. Over-intensive land management, on the other hand, can also have adverse external effects, which might include environmental impacts such as the loss of biodiversity, groundwater and surface water pollution, the loss of nutrient-rich soils, or accelerated soil erosion. In accordance with the relevant objectives at the European and national level, the Austrian agricultural policy is successful in enhancing the environmental quality in rural areas by implementing a broad range of statutory and voluntary measures.

National and European environmental laws and regulations aim at raising the environmental quality. These imposed standards reduce the farmers' overall production yields. The most important statutory regulations for farmers in Austria are, among others, the soil protection and nature conservation laws issued by the Federal Provinces, the Water Law Act including the "Action Programme Nitrates", the Plant Protection Product Act and the associated action programme issued by the Federal Provinces, as well as the Austrian Animal Protection Act. A tightening of a country's environmental legislation increases the risk of operations becoming less competitive due to higher production costs and, in the worst case, of operations being forced out of the market by producers from countries with lower environmental standards.

However, society often expects environmental quality that exceeds the legal minimum. That is the reason why many Member States offer voluntary measures, financed by public funds, which have a positive impact on environmental quality. Efforts are increasingly being made to compensate for higher environmental and animal protection standards by means of quality labels or production certificates. In this respect, the Austrian AMA quality seal or the labelling of organic or hay-milk products are worth mentioning. In such cases, consumers are willing to pay a correspondingly higher market price for particularly environmentally friendly production methods.



MEETING CHALLENGES WITH AGRI-ENVIRONMENTAL SERVICES

The current environmental situation in Austria is continuously monitored and evaluated. Legal requirements are imposed and voluntary measures are taken in an attempt to cope with the challenges relating to the protected assets soil, water, climate, air, animals and plants in the best possible way. Due to its topographical features and its traditionally grown agricultural structure, the conditions in Austria are favourable for the preservation of a high environmental quality.

Decline in biodiversity in agriculturally characterised habitats

Potential risks for agricultural biodiversity are the use intensification in agriculture and the abandonment of agricultural use in endangered grassland habitats. For example, farmland areas with a High Nature Value Farmland (HNVF) or the Farmland Bird Index (FBI) have shown a continuous decline in recent years. In this respect it must be taken into consideration that the mentioned indicators are not only influenced by agricultural activities, but also by other factors such as settlement, traffic and industrial activities. Around 15 percent of Austria's federal territory are Natura 2000 areas within the Europe-wide network of protected areas; around eleven percent of these are agricultural land. To preserve and improve natural habitats, further efforts are necessary, which are specifically addressed by means of the ÖPUL measures.

High water quality all over Austria, despite regional challenges

Almost all of Austria's surface waters and the majority of its groundwater exhibit good to very good water quality. The maintenance and systematic improvement of the groundwater and surface water conditions are evaluated using the National Water Management Plan ("Nationaler Gewässerschutzplan", NGP) and corresponding measures are recommended. The material pollution of groundwater and surface water bodies is generally low in Austria. Particularly in areas with a high proportion of arable land, however, the thresholds for water pollution are currently exceeded, which is why the ÖPUL water protection measures are systematically adopted in regions affected by this problem. The provided ÖPUL measures support water-friendly management practices and reduce the leaching of nutrients. In some areas with specific problems, these measures were successful in either solving the problems completely or reducing them to a minimum.

Generally good soil quality – the major issue land consumption

The soil conditions in Austria are generally rated as good. Successfully implemented measures in the context of the Agri-environmental Programme are employed to prevent soil erosion, soil compaction, loss of organic substance and local and diffuse pollution. With the strong commitment of Austria's agriculture towards soil-friendly and humus-promoting management practices, it is



possible to raise the humus content in arable land locations, improving the soil's buffering, filtering and sorption capacity. In an international comparison, Austria has a relatively high rate of land consumption, which particularly affects agriculturally used areas, which therefore ultimately are no longer useable for agricultural production.

The global warming challenge and low-emission agriculture

Extreme-weather events, such as drought periods, heavy rainfall, gale-force winds or sudden late frost, are becoming an increasingly common feature and pose a serious challenge for Austria's agriculture. Even though the contribution of Austria's agricultural activities to climate change is minor (around ten percent of CO₂ emissions), agriculture is called upon to contribute to lowcarbon and climate-resilient land management. This is in the interest of agriculture itself and is promoted by corresponding funding programmes. The effects of continuous soil sealing and the changes in land use can result in a serious loss of valuable carbon sinks and require addressing, particularly where spatial planning is concerned. In light of increased global warming, consideration must also be given to the need for wildlife corridors to enable the migration of fauna and flora species. Such nature preservation concerns can be satisfied by adopting targeted measures to preserve diverse landscape features.

Given the Kyoto objectives, sustainable, lowemission livestock-farming and, in particular, low-emission cattle farming, point the way ahead in regards to livestock husbandry systems. Pasture management, for example, not only reflects society's understanding of animal welfare best, but it also supports grassland preservation. Given the positive impact on lowering greenhouse gases, the extension of the grazing period and an increase in the number of grazing animals are also encouraged under the 2015-2018 action programme in accordance with the Climate Protection Act. An optimal feed quality helps to reduce emissions per product unit.

GENERAL CONDITIONS FOR THE DEVELOPMENT OF ÖPUL 2015

THE RURAL DEVELOPMENT

PROGRAMME (RD Programme, Rural Development) is embedded in the Common Agricultural Policy (CAP) of the European Union and represents what is referred to as the second pillar of the EU's agricultural policy. In contrast to the first pillar of the CAP, the common market organisation and the direct payments, the Rural Development programme is distinguished by national programmes drafted by the Member States in coordination with the European Commission. The European Union provides the framework for drafting the programmes, and the programmes developed by the Member States are approved by the European Commission.

Unlike the first CAP pillar, it is necessary to provide national co-financing for the national Rural Development Programmes in order to be able to receive financial support from the EU. The flexibility offered by the programmes allows the Member States to create regionally adapted programmes that suit the specific needs in the country.

In the case of Rural Development, Regulation (EU) No. 1305/2013 on support for rural development and the so-called horizontal regulation, Regulation (EU) No. 1306/2013 on the financing, management and monitoring of the common agricultural policy are of particular significance. Regulation (EU) No. 1305/2013 lays down the steps in the programme and measure planning procedure, which must also be reflected in the wording of the programme. Based on an extensive analysis of the situation in terms of strengths, weaknesses, opportunities and threats, the national needs are defined, which are addressed by a national strategy to implement the 2014-2020 Rural Development Programme with corresponding measures.

On the basis of the strategy development and, partially, in parallel to it, the respective measures are drawn up, which are submitted to the European Commission after being approved by the Federal Minister of Agriculture, Forestry, Environment and Water Management. Together with programme submission it is also necessary to present an ex-ante analysis of the provided measures' expected impact on the identified needs. The European Commission assesses the submitted drafts and adopts the programmes. The Austrian Rural Development Programme was one of the first European programmes to be adopted for the period 2014-2020. During and after the programme and measure implementation, the individual measures are subject to continuous evaluation. (See the figure below.)





Austria's Rural Development Programme for the 2014-2020 period is incorporated in the European Union's Common Strategic Framework (CSF). With a clear set of targets, it contributes to six thematic priorities. These priorities provide the framework for the support measures under the 14-20 RD Programme. Derived from the Europe 2020 Strategy and the Common Strategic Framework, a national partnership contract (PSC) for all EU funds must be developed, which covers the respective amounts to attain the objectives and the allocation of funding. The Austrian Partnership Contract is devised using a broad-based participation process under the leadership of the Austrian Conference on Spatial Planning (ÖROK). Due to the consistent process from the Europe 2020 Strategy to the Rural Development Programme measures, coherent programme development is preordained and necessary.

ÖPUL 2015 AS A KEY 14-20 RD MEASURE

ÖPUL 2015 still accounts for a large proportion of the payments made in the context of the 2014-2020 RD Programme. In total, around forty percent of RD payments of the entire period are paid via ÖPUL 2015. Compared to the previous period, the Rural Development Programme was established on a broader basis, and the payments were increased in fields like basic services and village renewal in rural areas or investment in physical assets. This enhanced the value of some project measures, for instance ones with a strong link to biodiversity. Under the ÖPUL 2015 Agrienvironmental Programme, the measures "Organic farming" and "Animal welfare" received an upgrade. The 14-20 RD Programme is especially focused on making Austria's agriculture more innovative, professional and competitive. At the same time, the aim is to proceed with consistency along the chosen path towards an environmentally sound, extensive agricultural sector which is protective of natural habitats.

ÖPUL 2015 was conceived as a follow-up programme to ÖPUL 2007. In essential areas it was developed further to increase the likeliness of achieving the environmental goals. The goals were developed further on the basis of evaluations and reviews of past Agri-environmental Programmes, amendments to national environmental provisions and framework conditions, as well as adapted legal standards of the European Commission. The individual ÖPUL measures were developed in a participation process which included stakeholders and representatives of special interest groups. Importance was attached to ensuring that the favourable effect of each ÖPUL measure on the quality of the environment was scientifically proven, justifiable, verifiable and evaluable. The controllability of requirements is a key criterion when developing the individual conditions for eligibility.

ÖPUL 2015 is implemented in the course of a Special Ordinance issued by the Federal Ministry (in short: ÖPUL-SRL) on the basis of privatesector administration. Both the 14-20 RD Programme and the national Special Ordinance define the general and measure-specific eligibility conditions, which serve as a basis for the private business contract concluded between the managers of agricultural holdings and the Federal State as funding body.

The measures implemented under ÖPUL correspond to Articles 28, 29, 30 and 33 in Regulation (EU) No. 1305/2013. ÖPUL 2015 consequently implements the four area-based 14-20 RD Programme measures: the agri-environment climate measure, the organic farming measures, the Natura 2000 and Water Framework Directive payments measure and the animal welfare measure. All in all, ÖPUL 2015 comprises nineteen agrienvironment climate measures, one organic farming measure, two animal welfare measures and one Natura 2000-agriculture measure.

The payments for services are granted annually and serve to compensate the farms participating in ÖPUL for all or part of the additional costs and income foregone, resulting from the commitments made. This means that the actual costs of the environmental services are compensated for based on a standard cost calculation. In the calculation, "costs" (for example, reduced yield or additional work and expense) are offset against savings and additional earnings.



Any overlaps in services caused by combining different measures are either avoided by defining permitted measure combinations or are taken into account in the calculation. When defining the eligibility criteria particular attention was given to ensuring that double funding and deadweight effects were excluded. The commitments made in the context of ÖPUL 2015 must be fulfilled for a period of at least five years, with the exception of the three ÖPUL measures animal welfare/grazing of livestock, animal welfare/stable and Natura 2000 agriculture, as to which it is also possible to participate for the term of one year.

The details of all funding applications submitted by applicants are checked for plausibility and accuracy. Pursuant to the European Union legislation, five percent of all farms participating in ÖPUL are checked on site for compliance with the criteria for receiving subsidies.

OBJECTIVES AND PRIORITIES OF ÖPUL 2015

The content-related priorities under ÖPUL 2015 are particularly covered by Priority 4 "Restoring, preserving and enhancing ecosystems depending on agriculture and forestry" and Priority 5 "Supporting resource efficiency and the shift towards a low-carbon and climate resilient economy in agriculture, food and forestry sectors".

In the context of the uniform intervention logic applied throughout the European Union to attain the desired targets, ÖPUL 2015 particularly pursues the following strategic priority areas which are specifically addressed by corresponding ÖPUL measures:

- Restoring, preserving and enhancing of biodiversity, also of Natura 2000 sites, and in areas facing natural or other specific constraints, and of high nature value farming, as well as of the state of European landscapes
- Preventing soil erosion and improving soil management
- Improving water management, including fertilizer and pesticide management
- Fostering carbon conservation and sequestration in agriculturally used soils by implementing humus-promoting management practices
- Reducing greenhouse gas and ammonia emissions from agriculture and fostering carbon

conservation and sequestration as well as humus preservation

- Promoting quality regulations taking into account animal welfare standards and promotion of pasture grazing and straw bedding
- Fostering innovation, cooperation, and the development of the knowledge base in rural areas
- Agricultural training and raising farmers' awareness of the potential and added value of the ÖPUL measures and, in particular, of environmentally sound systems of land management that use natural resources sparingly
- Fostering competitiveness by specifically promoting environmentally friendly production methods and management systems adapted to climate change



Abbreviations: EAFRD = European Agricultural Fund for Rural Development; ERDF = European Regional Development Fund; ESF = European Social Fund, EMFF = European Maritime and Fisheries Fund



CONTENT-RELATED DETAILS OF THE MEASURES

ÖPUL PURSUES broad and focused approaches in order to reach the set environmental objectives. With areas being managed in accordance with the requirements throughout Austria, broad measures have an area-wide effect. Focused requirements aim at achieving a certain effect in areas with specific protection needs. The majority of the ÖPUL measures are intended to achieve multiple goals in the maintenance and enhancement of the environmental situation. Accordingly, the various ÖPUL measures usually have favourable effects on more than one subject of protection at the same time. This particularly applies to broad approaches, as pursued by the measures "Environmentally sound and biodiversity-promoting management", "Limitation of yieldincreasing inputs" or "Organic farming".

In the area of biodiversity, an environmentally compatible and sustainable agriculture is supported by a wide variety of measures in all of Austria – for example by creating areas on which flowering plants are grown, maintaining grassland and landscape features in the agricultural landscape and promoting organic farming practices.

Where soil fertility is concerned, the greening of arable land, the maintenance of grassland, organic farming and vocational education and training are broadly effective approaches.

In the area of water protection, regionally focused measures are offered as priorities, alongside broadly effective measures, such as the "Greening of arable land". To this end, a regional scenario was created for areas with raised concentrations of nutrients and pollutants and/or the risk of material contaminants entering groundwater and surface waters.

The graphic shows in which areas the measure "preventative groundwater protection in arable land" is being offered:



Depending on the measure, it is possible to participate either with an individual area or with the entire farm. It is also possible to choose combinations of measures that are specifically adapted to each other. During the commitment period, it is in some cases also possible to shift to a higher-value measure, for example from "Environmentally sound and biodiversity-promoting management" into the "Organic farming" measure.

In some measures, the attendance of specialised courses is a key criterion for eligibility. A number of educational institutions, for instance rural further education institutions (Ländliche Fortbildungsinstitute, LFI), the Austrian association for agricultural engineering and rural development (Österreichisches Kuratorium für Landtechnik und Landentwicklung, ÖKL) or the teaching and research centre (LFZ) Raumberg-Gumpenstein offer a range of educational options on topics such as biodiversity, fertilizer management or erosion, climate, water and plant protection. The extensive range of professional further-education and training measures thus help to improve understanding and raise awareness, particularly with regard to the application of environmentally compatible management practices and the sustainable use of natural resources.

See below a detailed presentation of the effects of ÖPUL 2015 on key priority areas and which management practices are applied.

Measure	Contribution	Effect
Environmentally sound and biodiversity-pro- moting management	Compensation for the creation and mainte- nance of valuable areas and structures such as e.g. landscape features; at least 5 % biodiversity areas; crop rotation require- ments and mandatory further training	Diverse landscape features and biodiversi- ty areas ensure habitats and shelters for many animal and plant species. In Austria, the implementation of this measure creates more than 70,000 hectares of biodiversity areas.
Limitation of yield- increasing inputs	Compensation for reduced yields due to the renouncement of chemical-synthetic pesti- cides on animal feed crops and grassland and nitrogen fertilizers on arable and grass- land	Intact agricultural nutrient cycles and reduced use of pesticides and fertilizers foster biodiversity.
Renouncement of fungi- cides and growth regula- tors in cereals	Compensation for reduced yield due to the renouncement of the use of chemical- synthetic fungicides and growth regulators in cereal crops	The renouncement of fungicides and growth regulators has a favourable impact on soil organisms. The cultivation of resistant and site-specific species contrib- utes to genetic diversity.
Cultivation of rare agricultural crops	Compensation for reduced yield due to the cultivation and use of rare and regionally valuable agricultural varieties and species of plants compared to high-yielding varie- ties	The preservation and development of genetic plant resources is necessary to achieve stable and crisis-resistant ecosys- tems and provides an important genetic pool for future cultivation.
Maintenance of endan- gered livestock breeds	Compensation for reduced performance due to the rearing and breeding of endan- gered and highly endangered livestock breeds	Rare livestock breeds are generally more resilient and better adapted to regional site conditions and management systems, and constitute an important genetic pool for future breeding.
Renouncement of silage	Compensation for reduced yields due to haymaking and the associated later first grass cut compared to silage making	Later and less frequent mowing and a mosaic-like structure of land use foster biodiversity and offer habitats for wildlife and insects.
Cultivation of mowed mountain grassland	Compensation for the added costs for the continued agricultural use of mowed mountain meadows and steep slopes	Open, cultivated alpine landscapes pro- vide habitats for many plants and animals that depend on agricultural habitats. Non- utilisation would lead to the loss of valua- ble biotopes due to the spread of scrub and woodland.
Mountain grazing and herding	Compensation for added costs or reduced yields due to site-specific pasture manage- ment on alpine grazing areas with sheep, goats, horses or cattle and for the additional work and expense for the daily herding of animals	Maintenance of an open, cultivated alpine landscape by extensive, site-specific al- pine pasture management and renounce- ment of pesticides and fertilizers leads to great diversity of animals and plants on alpine pastures.
Nature conservation	Compensation for additional work and costs and/or reduced yields due to project obligations for the extensive management of areas which are of value in terms of nature conservation according to cross- regional and result-oriented nature conser- vation plans	The preservation of biotope network struc- tures in agriculturally used areas contrib- utes to the protection of animal and plant species pursuant to the Birds and Habitats Directives and the 2020 EU Biodiversity Strategy.
Organic farming	Compensation for added costs/reduced yields due to organic farming of arable land, grassland, permanent/special crops pursuant to Regulation (EC) No. 834/2007 (Eco-Regulation) and for the maintenance of structural elements	Intact agricultural nutrient cycles, the renouncement of chemical-synthetic pesti- cides and mineral fertilizers, and diverse landscape features promote diversity in animal and plant species.
Natura 2000-Agriculture	Compensation for added costs of managing grasslands in Natura 2000 and other areas due to the requirements associated with protection areas	In the context of the Natura 2000 obliga- tion, bans on fertilizers and later cutting times in meadows and pastures support the maintenance of agricultural ecosys- tems.



CONTRIBUTION TO GENETIC AND BIOLOGICAL DIVERSITY

DUE TO THE VARIED geological, geomorphic and climatic conditions of its natural environment, Austria is rich in landscapes, habitats and animal and plant species. For centuries, traditional systems of land management have additionally contributed to the preservation of a great biological diversity in the smallest of spaces. However, as a result of growing productivity, and due to the increasingly technological nature of agricultural management, there has been a noticeable decline in animal and plant species, as well as landscape structures, in agricultural landscapes worldwide.

The preservation of biological and genetic diversity is crucial to ensuring the production bases for healthy regional food in the long term. With a broad variety of measures, ÖPUL 2015 makes a vital contribution to the implementation and maintenance of site-specific and environmentally compatible systems of agricultural management. In doing so, it provides an essential foundation for the preservation and development of animal and plant biodiversity in Austrian agricultural landscapes, promotes the protection of endangered and the maintenance of rare agricultural animal and plant species, making a significant contribution to the attainment of the objectives of both the European and the Austrian Biodiversity Strategy by 2020.

Key ÖPUL approaches to maintain and increase genetic and biological diversity:

- Biodiversity areas, fallow land, areas on which flowering plants are grown and other patchwork structures meet a variety of ecological functions and have a favourable effect on biodiversity and the number of individuals in agricultural landscapes. Targeted management commitments additionally contribute essentially to maintain these structures and their diverse functions in the long term, thereby preserving agricultural habitats.
- Site-specific arable and grassland management and targeted biodiversity-promoting farming requirements promote high biodiversity and protect sensitive habitats.
- Measures such as limiting the share of cereals and maize in crop rotation and promoting certain flowering crops and organic farming helps to ensure the continued cultivation of alternative crops to maintain agricultural biodiversity and the important role of field forage, e.g. clover, in crop composition.
- Activities such as rearing endangered livestock breeds and growing rare agricultural crops also significantly support the preservation of an extensive and crisis-resistant genetic pool for animals and plants.

ÖPUL CONTRIBUTION TO THE PROMOTION OF SOIL FERTILITY

Measure	Contribution	Effect
Environmentally sound and biodiversity-pro- moting management	Compensation for the additional work and costs for the maintenance and creation of agriculturally used areas and structures of ecological value, the preservation of land- scape features, and for the creation of bio- diversity areas	The preservation of landscape features, the creation of biodiversity areas and the renouncement of ploughing up grassland help significantly to protect agriculturally used soils from wind and water erosion.
Greening of arable land – intermediate crops	Compensation for added costs resulting from the active development of area-wide greening between two main crops, re- nouncement of nitrogen fertilizers and pesticides and tillage operations, through- out the greening period	Regular greening reduces nitrogen levels in water bodies. Moreover, dense greening with a biomass of e.g. around 4 t/hectare reduces soil erosion by more than 20%.
Greening of arable land – ''Evergreen'' system	Compensation for added costs resulting from the active development of area-wide greening on at least 85 % of the arable land the whole year round (by growing main and intermediate crops), renouncement of nitrogen fertilizers and pesticides as well as of tillage operations throughout the green- ing period	Year-round, area-wide greening of arable areas contributes essentially towards re- duced soil erosion. The increased share of perennial field forage in crop rotation promotes soil fertility.
Direct seeding and seed- ing on mulch (incl. strip till)	Compensation for added costs and/or re- duced yields due to cultivation methods such as direct seeding and seeding on mulch or strip till	Applying low-impact tillage methods reduces wind and water erosion while the successive main crops are growing.
Erosion protection in fruit, vineyards and hops	Compensation for added costs due to active area-wide greening of machine tracks in vineyards, fruit and hops	Area-wide greening of machine tracks and reduced soil treatment protect against wind and water erosion, promote carbon conservation and sequestration in the soil and promote soil fertility.
Preventative surface water protection on arable land	Compensation for land set aside by estab- lishing a minimum 12-metre buffer strip adjacent to rivers or streams or by preserv- ing existing, greened buffer strips along the banks of rivers or streams	A permanent, hardy green cover along the banks of rivers or streams, particularly along arable areas threatened by leaching, leads to a significant reduction in soil erosion.
Organic farming	Compensation for added costs/reduced yields due to organic farming of arable land, grassland, permanent/special crops pursuant to Regulation (EC) No. 834/2007 (Eco-Regulation) and for the maintenance of grassland and landscape features	Diversified crop rotation and the preserva- tion of permanent grassland enhance the soil fertility. Equally, intact agricultural nutrient cycles, the renouncement of pes- ticides and mineral fertilizers and the preservation of existing landscape features support the maintenance of fertile soils.



CONTRIBUTION TO SOIL FERTILITY

HEALTHY, FERTILE SOILS are a key life resource for human beings, animals and plants. Agriculturally used soils fulfil irreplaceable buffer, filter and storage functions. Healthy soils store water, regulate nutrient cycles and help to prevent pollutants from entering the groundwater. Soils rich in humus have relatively high water storage capacities and take on a special function as carbon sink. In Austria, the maintenance of management practices which promote and maintain humus is of essential significance in order to preserve soil fertility, even under changing climatic conditions, and additionally makes a contribution toward climate protection.

The majority of surface sealing for settlement, transport infrastructure and economic purposes is at the expense of areas used for agriculture and forestry. Additional risks for the resource soil are wind and water erosion, as well as soil compaction, which significantly reduces soil fertility.

Key ÖPUL approaches to maintain and enhance soil fertility:

 Management systems which promote humus, preserve nutrients and reduce erosion improve the humus level in arable soils and, as a result, enhance their buffer, filter and storage function. This is supported by the establishment of green covers, reduced soil treatment or crop rotation with higher shares of field forage.

- Landscape features such as hedgerows and copses provide crucial protection against wind and water erosion.
- Year-round soil cover, for example permanent grassland, with arable areas covered with intermediate crops, or permanent, hardy buffer strips along water courses reduce soil erosion and additionally minimise nutrient losses into groundwater and surface water. In orchards and vineyards, greening the machine tracks also reduces the risk of water erosion.
- Organic farming makes an important contribution to the maintenance of fertility in agricultural soils. Diversified crop rotation provides for a favourable nutrient balance in the soil. The cultivation of plants such as alfalfa and clover helps to build up organic substance (humus) in the soil.

Measure	Contribution	Effect
Environmentally sound and biodiversity-pro- moting management	Compensation for the additional work and expense for maintaining landscape features and for treating such features on or next to farmland ecologically	Copses, hedgerows, shrubs and, in par- ticular, wooded banks on fields and mead- ows contribute significantly to water pollution control.
Renouncement of fungi- cides and growth regula- tors in cereals	Compensation for reduced yields due to the renouncement of chemical-synthetic fungi- cides and growth regulators in cereal crops	The renouncement of fungicides and growth regulators has a favourable impact on water pollution control in surface water bodies and groundwater and makes a valuable contribution to the safety of drinking-water and the protection of aquatic habitats.
Greening of arable land – intermediate crops	Compensation for added costs due to the active establishment of a crop (including undersowing) between two main crops on at least 10 % of the area, renouncement of mineral nitrogen fertilizers and chemical- synthetic pesticides, as well as of tillage, during the greening period	Cultivating intermediate crops supports nutrient supply of the arable soil while renouncing nitrogen fertilizers, because the intermediate crops reduce the amount of nutrients leached to groundwater and surface water.
Greening of arable land – ''Evergreen'' system	Compensation for added costs resulting from the active development of area-wide greening on at least 85 % of the arable land the whole year round (by growing main and intermediate crops), renouncement of nitrogen fertilizers and pesticides, as well as of tillage operations, throughout the greening period	Year-round, area-wide soil cover on ara- ble land protects against soil erosion and additionally helps significantly to reduce leaching of material discharges, particular- ly of nutrients from agricultural sources.
Direct seeding and seed- ing on mulch (incl. strip till)	Compensation for added costs and/or re- duced yields due to cultivation methods such as direct seeding and seeding on mulch or strip till	The renouncement of high-impact tillage methods helps to minimise soil erosion and, consequently, nutrient input in water bodies.
Erosion protection for fruit, vineyards and hops	Compensation for added costs resulting from the active area-wide development or maintenance of greened machine tracks in vineyards and orchards	Area-wide greening helps substantially in reducing soil erosion and reducing the associated leaching of nutrients into sur- face waters.
Pesticide renouncement in vineyards and hops	Compensation for the additional work and expenses and/or reduced yields due to the renouncement of insecticides and/or herbi- cides	The renouncement of pesticides (among other things) helps to avoid or reduce potential material input into groundwater and surface water.
Preventative ground- water protection	Arable land: compensation for yield loss caused by the reduced use of fertilizers, renouncement of selected pesticides; doc- umentation on the use of nitrogen fertilizer, specific consultation and training Grassland: compensation for plot-related ban on the ploughing up or renewal of grassland	The renouncement of certain pesticides and the reduced use of fertilizers in arable land threatened or polluted by nitrates reduce material input into water bodies. Grassland preservation also helps to re- duce material pollution in water bodies in production facilities with exceptionally high soil rating and risk of ploughing.
Preventative surface water protection on arable land	Compensation for land set aside by estab- lishing a minimum 12-metre buffer strip adjacent to rivers or streams or by preserv- ing existing, greened buffer strips along rivers or streams	Permanent, hardy buffer strips mainly along arable land at risk of leaching re- duce nutrient input (such as phosphor) into surface waters.
Organic farming	Compensation for the added costs/reduced yields due to organic farming of arable land, grassland, permanent/special crops pursuant to Regulation (EC) No. 834/2007 (Eco-Regulation) and for the maintenance of grassland and landscape features	The renouncement of chemical-synthetic pesticides and mineral fertilizers, diversi- fied crop rotation and grassland preserva- tion reduce material input into water bod- ies.



CONTRIBUTION TO WATER POLLUTION CONTROL

THE AUSTRIAN GROUNDWATER AND SURFACE WATER BODIES generally have a very high water quality with low levels of

have a very high water quality with low levels of material pollution. There are, however, regional differences and various challenges. Essentially, nitrogen pollution is lowered by reduced fertilization and/or the permanent greening of arable land. The reduction of phosphor input is mainly achieved by reducing soil erosion. To lower other types of material pollution, it is particularly essential to do without substances at risk of leaching.

Combined with the reduced use of agricultural inputs, ÖPUL 2015 promotes sustainable, lowimpact management practices, contributing essentially towards the reduction of material input into groundwater and surface waters. This way, the goals of the EU Nitrates Directive (91/676/EEC) as well as the objectives of the EU Water Framework Directive (2000/60/EC) and the EU Directive 2009/128/EC on the sustainable use of pesticides are supported, going beyond the legal requirements.

With broad, area-wide measures, ÖPUL 2015 seeks to protect water bodies with low levels of pollution or none at all. In areas with raised concentrations of nutrients and pollutants, i.e. a heightened risk of material pollution, targeted management practices for arable land and permanent grassland with low impact on the groundwater are supported. Key ÖPUL approaches contributing to water pollution control:

- Preventative and site-specific management practices on arable land contribute towards improving the water quality and reduce or prevent material pollution.
- Erosion protection measures such as greening or using permanent greening mixtures – particularly on arable land at high risk of leaching – reduce soil erosion and the associated nutrient runoff into surface waters.
- Buffer zones in the form of wooded banks along water courses contribute to water pollution control.
- Grassland preservation provides for slow water infiltration and a lower risk of nitrate leaching.
- A large number of consultation and training opportunities to convey the relationship between fertilizing and nutrient pollution in water bodies seek to raise the awareness and promote the efficient use of nutrients and plant protection products.

Measure	Contribution	Effect
Limitation of yield- increasing inputs	Compensation for reduced yields due to the renouncement of chemical-synthetic nitro- gen fertilizers	The renouncement of the use of mineral fertilizers results in significantly reduced greenhouse gas emissions (nitrous oxide) from agricultural sources.
Cultivation of rare agricultural crops	Compensation for reduced yield due to the cultivation and use of rare and regionally valuable agricultural varieties and species of plants	Because of their potential adaptability to changing climatic conditions, the cultiva- tion and reproduction of rare agricultural crops is part of the agricultural activities seeking to handle climate change.
Maintenance of endan- gered livestock breeds	Compensation for reduced performance due to the breeding and rearing of endan- gered and highly endangered livestock breeds, promotion of knowledge about conservation breeding	Because of their possible adaptability to changing climatic conditions, the mainte- nance of endangered livestock breeds also contributes to adaptation to climate change.
Greening of arable land – intermediate crops	Compensation for added costs resulting from the active greening of land between two main crops, renouncement of the use of nitrogen fertilizers and pesticides and tillage operations throughout the greening period	Due to prolonged elevations of organic substances in the soil, humus is built up, which achieves higher carbon levels in the soil.
Greening of arable land – ''Evergreen'' system	Compensation for added costs resulting from the active development of area-wide greening on at least 85 % of the arable land the whole year round (by growing main and intermediate crops), renouncement of nitrogen fertilizers and pesticides and till- age operations throughout the greening period	Sustaining a green cover on arable land (if possible, the whole year round) increases the organic substance in the soils, which promotes humus, thereby contributing to climate protection.
Direct seeding and seed- ing on mulch (incl. strip till)	Compensation for the added costs and/or reduced yields resulting from to cultivation practices like direct seeding and seeding on mulch or strip till	Applying low-impact tillage methods helps to build up humus in the topmost soil layer.
Surface-near spreading of liquid farm manure	Compensation for added costs due to the surface-near spreading of at least 50 % of the liquid farm manure on arable land and grassland, e.g. by using trailing hose spreaders or liquid manure injection systems	Surface-near application of farm manure leads to less nutrient loss and increases nitrogen efficiency. As a result, the amount of greenhouse gases, e.g. nitrous oxide, emitted to the atmosphere is re- duced.
Erosion protection for fruit, vineyards and hops	Compensation for added costs due to active area-wide greening of all machine tracks in vineyards, fruit and hops	Area-wide greening in the machine tracks helps to build up humus, thereby improv- ing carbon conservation in the soil.
Nature conservation	Compensation for additional work and costs and/or reduced yields due to project obligations for the extensive, near-to- nature management of agriculturally used areas which are of ecological value, in terms of cross-regional and operational, result-oriented nature conservation plans	The careful utilisation of e.g. wetland habitats on farmland counteracts the loss of carbon supplies in the soils, which prevents the gases from being emitted into the atmosphere.
Organic farming	Compensation for the added costs/reduced yields due to organic farming of arable land, grassland, permanent/special crops pursuant to Regulation (EC) No. 834/2007 (Eco-Regulation)	Humus-promoting crop rotations lead to higher carbon concentrations in the soil, because they bind carbon from the atmos- phere.



CONTRIBUTION TO CLIMATE CHANGE ADAPTATION AND CLIMATE PROTECTION

THERE ARE FEW INDUSTRIES AS DEPENDENT on the weather and on climate conditions as the agricultural sector is. Among such conditions are global climate changes as are the increasing occurrence of local extreme weather events, such as floods or prolonged draught and frost periods. The Agri-environmental Programme ÖPUL offers a large number of measures which promote climate-friendly agricultural production practices and ensure that the necessary provisions are made in the area of climate change adaptation.

Key ÖPUL approaches contributing to climate change adaptation and climate protection:

- Because of its high humus content and the high share of macro-pores in the soils, the preservation of permanent grassland contributes towards the maintenance of high carbon conservation and water storage capacity. In light of the forecasted extreme weather events and regional water scarcity, this aspect will gain even more importance in the future.
- The implementation of humus-promoting and/or humus-conserving management practices

such as (winter) greening of arable land or of machine lanes permanent-crop areas and the establishment of perennial green covers to protect groundwater and surface water bodies, raises the productivity and fertility of agriculturally used soils in the long term.

- Broad, diversified crop rotations help to preserve and promote humus in agriculturally used soils. Diversified crop rotations additionally make a contribution to biodiversity and raise the agriculture's resilience against crop pests and diseases, which, due to climate change, are expected to exert increased pressure in the future.
- Limitations of fertilizers and/or the renouncement of the use of mineral nitrogen fertilizers guarantee an almost closed nutrient cycle and additionally help to reduce greenhouse gas emissions and nitrogen leaching.
- The preservation of rare agricultural crops and endangered livestock breeds is significant also because of such animal and plant species' potential adaptability to changing climate conditions.

ÖPUL CONTRIBUTION TO THE PROMOTION OF ANIMAL WELFARE

Measure	Contribution	Effect
Mountain grazing and herding	Compensation for the added costs or re- duced yields resulting from site-specific pasture management on alpine grazing areas with sheep, goats, horses or cattle and compensation for the additional work and expense for the daily herding of animals	The custom of driving the cattle to (lower and higher) alpine pastures for the sum- mer months is a traditional and species- appropriate way of livestock rearing. Site- specific, extensive pasture management in alpine areas additionally not only im- proves the animals' wellbeing, but also helps to enhance biodiversity.
Organic farming	Compensation for the additional costs and/or reduced yields resulting from the particularly animal-friendly systems of husbandry and meeting high animal protec- tion standards which comply with species- and behaviour-related needs – such as regular exercise and constant access to open land or pastures	Area-based and site-specific livestock husbandry and husbandry systems appro- priate to the species have an overall fa- vourable impact on the wellbeing of live- stock.
Animal welfare – grazing of livestock	Compensation for the additional work and expense/reduced yields resulting from the grazing of cattle, sheep and goats on pas- tures on at least 120 days of the year	Grazing cattle, sheep and goats on pas- tures is the most species-appropriate way to keep these animals. The livestock can roam, graze, rest and interact as they like, which enhances the animals' wellbeing and satisfies their natural needs.
Animal welfare – stable	Compensation for the additional work and expense or the reduced yields resulting from the keeping of male cattle, young pigs and fattening pigs, as well as of young sows and breeding sows, in groups in lit- tered, soft and dry areas with a continuous solid surface for lying down and increased space available inside the stable	Keeping male cattle and pigs in groups with increased space and dry areas for lying down meets the requirements of particularly species-appropriate animal husbandry and contributes substantially towards animal welfare. Moreover, the animals receive straw and organic materi- als as manipulable material.



CONTRIBUTION TO ANIMAL WELFARE

ANIMAL-FRIENDLY HUSBANDRY

CONDITIONS for livestock meet the consumers' expectations of modern animal husbandry. They additionally have a favourable impact on the animals' health. As a result, high animal protection standards and targeted measures to promote the welfare of livestock are becoming increasingly important in Austria's agriculture. Many livestock husbandry requirements in the Austrian legislation are stricter and more detailed than in the currently applicable EU legislation. Furthermore, farmers are encouraged to undertake voluntary measures which seek to enhance animal welfare.

Key ÖPUL approaches contributing to animal welfare:

In terms of exercise, feeding, resting and social interaction, the grazing of cattle, sheep and goats on pastures meets the livestock's natural needs. Grazing, however, entails not only a substantial amount of extra work and costs for pasture management but also, in many cases, reduced animal performance. Recent decades have therefore seen a trend towards keeping livestock indoors the whole year round.

- Pasture grazing (at least 120 days) and sitespecific and extensive mountain pasture management (at least 60 days), as are supported by the Agri-environmental Programme, make a significant contribution to the improvement of animal welfare.
- ÖPUL 2015 supports particularly animalfriendly husbandry conditions, also inside stables, which go beyond normal practices and the already strict Austrian animal protection law.
 Keeping livestock in groups on littered areas where they can lie down meets the requirements of modern, livestock-friendly husbandry. The animals also receive sufficient amounts of straw or hay as manipulable material.
- Organic farming has particular significance due to the strict animal protection standards in organic animal husbandry. Adapted livestock farming, which ensures constant access to open land or pasture, supports the wellbeing of agricultural livestock in general.

Measure	Contribution	Effect
Environmentally sound and biodiversity-pro- moting management	Compensation for the added work and expense for maintaining ecological ways of handling landscape features in or next to agriculturally used areas, for the establish- ment of biodiversity areas on arable land and mowed grassland areas, as well as for preserving the extent of existing grassland	Copses, hedgerows, shrubs, wooded banks and flowering strips, unploughed strips and banks on meadows and fields are the expression of site-specific farming prac- tices that are environmentally friendly and sustainable. The maintenance of landscape features and grassland areas, as well as the establishment of biodiversity areas, con- tribute substantially towards preserving the character and functions of a diverse cultivated landscape. In addition, land management generally contributes to creating and maintaining landscape struc- tures which are necessary for high biodi- versity.
Maintenance of endan- gered livestock breeds	Compensation for the reduced performance resulting from the breeding and sustainable keeping of endangered and highly endan- gered livestock breeds	Local livestock breeds distinguish a re- gion's unique character and are therefore regarded as an important cultural asset.
Greening of arable land – ''Evergreen'' system	Compensation for added costs resulting from to the active development of area- wide greening on at least 85% of arable land the whole year round (by growing main and intermediate crops), renounce- ment of nitrogen fertilizers and pesticides, as well as of tillage operations, throughout the greening period	Year-round, area-wide greening of arable land not only protects against soil erosion, but also distinguishes the landscape, par- ticularly during the autumn months.
Renouncement of silage	Compensation for reduced yields due to hay making and the associated later first cut compared to silage making	Later and less frequent mowing results in the traditional, mosaic-like structures, which have a very favourable impact on the landscape.
Cultivation of mowed mountain grassland	Compensation for added costs for the con- tinued extensive agricultural use of mowed mountain meadows and steep slopes	Open cultivated alpine landscapes are, among other things, the result of the cen- turies-old tradition of cultivating mowed mountain grassland. By maintaining the cultivation of mowed mountain grassland, its aesthetic landscape value is also main- tained.
Mountain grazing and herding	Compensation for added costs or reduced yields due to site-specific pasture manage- ment on alpine grazing areas with sheep, goats, horses or cattle and compensation for the additional work and expense for the daily herding of animals	Mountain pastures are an important part of Austria's cultivated alpine landscapes. Cultivating alpine pastures helps to pre- vent the pastures from becoming over- grown with weeds and bushes and main- tains their aesthetic value.
Organic farming	Compensation for the additional work and expense for maintaining landscape features and for treating these features on or next to farmland ecologically; compensation for the added work and expense for preserving permanent grassland and groups of trees, single trees, bushes and hedgerows on agriculturally utilised land	The maintenance and ecological treatment of landscape features contributes to the preservation of cultivated landscapes which are rich in structures and species. Preserving permanent grassland helps to maintain open cultivated landscapes which provide habitats for many animal and plant species.
Animal welfare – grazing of livestock	Compensation for the additional work and expenses/reduced yields due to the grazing of cattle, sheep and goats on pastures on at least 120 days of the year	Grazing animals are not only an expres- sion of species-appropriate livestock hus- bandry; they are also a sign of a lively rural area and part of the cultural heritage of the Alpine region.



CONTRIBUTION TO THE PRESERVATION OF THE CULTIVATED LANDSCAPE

LANDSCAPES RICH IN STRUC-TURES AND SPECIES are often the result of agricultural practices that go back many centuries. In Austria, a wide variety of land management systems and farming intensities have produced diverse cultivated landscapes, which are not only valuable due to ecological and economical aspects but very frequently also because of their aesthetic appeal. Apart from their natural geographic conditions, cultivated landscapes typical of the region, for example the meadow orchards in the Mostviertel, the terraced vineyards in the Wachau or even the typical Austrian alpine pastures and mountain regions, have a significant impact on the region's identity. Given these considerations, the preservation of diversified cultivated landscapes is also of major interest from a tourist point of view.

The maintenance of the open cultivated landscape is a product of continuous land management. Austria's unique cultivated landscape is a visible sign of daily farming activities. The abandonment of agricultural use leads to meadows and pastures overgrown with scrub and woodland in a matter of a few years. This primarily affects (steep) slopes which are difficult to manage with equipment but which, as a result of extensive farming, are frequently distinguished by high biodiversity. Landscapes rich in structures and species are of key significance in terms of recreation and tourism. Such areas are often alpine meadows or mountain pastures whose management is supported under the ÖPUL programme.

Key ÖPUL contributions to the maintenance of cultivated landscapes rich in structures and species:

- The preservation and creation of ecologically significant structures, such as copses, hedgerows, shrubs, unploughed strips, wooded banks, fallow land and patches of flowering plants, help significantly to maintain cultivated landscapes rich in structures and species. Apart from having numerous ecological functions, such structures also have a high aesthetic value.
- Sustainable and environmentally compatible agricultural management contributes substantially towards the protection of natural resources and to the enhancement, preservation or restoration of good environmental conditions in cultivated landscapes rich in species.
- Some ÖPUL measures, such as year-round greening of arable land, renouncement of silage or the maintenance of landscape features, thus not only have a favourable impact on the protected assets soil, water, climate, air, animals and plants (as well as biological diversity), but also help to preserve what makes the cultivated landscape outstanding.



CHALLENGES AND FUTURE PROSPECTS

THE ENVIRONMENTAL SITUA-

TION IN AUSTRIA confirms that the course taken by the Austrian agricultural policy to compensate for environmental services via ÖPUL is a successful strategy to maintain and enhance the environmental situation and resource-saving land management. Our farmers have a genuine interest in the responsible and environmentally compatible use of fertile soils and clean water. The continuously high participation rates in ÖPUL demonstrate the farmers' great willingness to manage their farmland in an environmentally friendly and sustainable manner.

Industrialisation and mechanisation in agriculture have made farm work much easier. A single agricultural holding can feed far more people today than it could only 50 years ago. In light of the growing world population and global urbanisation, this is a major advantage.

While the structural changes that can be seen all over the world have not spared Austria, they are comparatively more moderate. The number of farms is declining steadily while the utilised agricultural area per farm is increasing. Farmers are experiencing an increased market pressure in general. Given the growing market orientation in agriculture, our farmers are facing tremendous challenges.

Actual and alleged target conflicts, for example between economy and ecology, or between climate protection and nature conservation, have a strong impact on the debate and—in addition to area-related farming measures—are making it necessary to offer more and more measures aiming at the education and further training and awareness-raising of people working in agriculture. In addition, there are a range of other aspects which affect the successful implementation of the Agri-environmental Programme: Facing dwindling funds and most wide-ranging interests, the EU is required to put the existing budget to maximum use and safeguard the funds for the future. Proof of the effects of the used funds is of central importance. However, it has been shown that the impact of preventative measures is more difficult to prove than that of measures with a corrective function. Austria is particularly affected by this requirement since the environmental situation is comparably good compared to other countries, and most of the ÖPUL measures primarily aim at the maintenance of the good environmental situation and therefore have a preventative character.

A particular challenge is the targeted and practicable implementation of the Agri-environmental Programme. With regard to the ÖPUL's further development, it is therefore in the interest of all of the involved parties to optimize the processing requirements. The greatest achievements can be found where the solutions are borne jointly. This can be ensured by close collaboration with all stakeholders and the involvement of NGOs as well as the farmers in all decision-making procedures.

The citizens value regionally produced and highquality food products, which is reflected in their willingness to pay fairer prices for such products. For Austria's agriculture to be sustainable, resource-saving and environmentally compatible, it is going to be increasingly important to valorise agricultural products, for example in the form of origin labels, labels for organically produced foods or labels for particularly animal-friendly husbandry conditions. After all, an intact agriculture with environmentally compatible production benefits everyone.

OVERVIEW OF ÖPUL 2015 MEASURES

Pursuant to Art. 28, 29, 30 and 33 of EU Reg. No. 1305/2013 in the context of the 14-20 RD Programme

General measure	Arable land	
Environmentally sound and biodiversity-promoting management	Greening of arable land – intermediate crops	Greening of arable land – "Evergreen" system *
Maintenance of landscape features and grassland, at least 5 % biodiver- sity areas, crop rotation, max. 66% of one crop, education	Yearly, area-wide greening (at least 10 % of the arable land) according to variants (periods), renouncement of nitrogen fertilizers and pesticides	Area-wide greening (at least 85 % of the arable land), max. period without greening 50 days, documentation, renouncement of nitrogen fertilizers
GL: 45 €/ha A: 45 €/ha A-flowering crops: 165 €/ha 6 €/LSE %/ha	A: 160 (120-200) €/ha intermediate crop, 200 €/ha for flowering bee crops	A: 80 €/ha
Organic farming Art 29 of EU Reg 1305/2013	Preventative groundwater	Direct seeding and seeding on mulch (incl. strip till)
Compliance with EU Eco- Regulation and acknowledgement as organic farm, maintenance of LSF and GL, education $GL: 225 (70) \notin/ha$ $A: 230 \notin/ha$ $A-flowering crops: 350 \notin/ha$ $P: 700 \notin/ha$ $LSF: 6 \notin/LSE \%/ha$ $Organic bees: 25 \notin/hive$	Arable land: reduced fertilization, extended periods without nitrogen fertilization, documentation, educa- tion, soil samples <u>Grassland</u> : reduced fertilization, renouncement of GL conversion, soil samples, education A: 100 €/ ha GL: 100/70 €/ha	Mandatory participation in "Green- ing of arable land - intermediate crops"; yearly mulch or direct sow- ing and sowing on mulch or strip till after greening, sowing of a succes- sive crop within 4 weeks after soil working A: 60 \in /ha for erosion-endangered crops (e.g. maize, sunflower)
Limitation of yield-increasing inputs**	Preventative surface water protection on arable land (regional)	Management of arable areas particularly threatened by leaching (regional)
Renouncement of pesticides on GL and arable forage land with the ex- ception of organic products and renouncement of nitrogen fertilizers with the exception of organic prod- ucts $GL/A/P: 60 \notin ha, no premiums for$ non-animal keepers	Establishment of a minimum 12-m buffer strip adjacent to designated surface waters, renouncement of fertilization and pesticides, yearly maintenance/use (no pasture) A: 450 €/ha	Establishment of a permanent green cover mixture on arable land at risk of leaching (soil-climate index <40), renouncement of fertilizers and pesticides on these areas, yearly maintenance/use, no pasture $A: 450 \in /ha$
Nature conservation *	Cultivation of rare agricultural crops *	Renouncement of fungicides and growth regulators in cereals **
Management of areas designated as projects by the nature conservation authority, optional integration into result-oriented nature conservation plan <i>GL: depending on obligation max.</i> 900 \in /ha <i>A: depending on obligation max.</i> 700 \in /ha	Cultivation of pure rare agricultural crops according to the list of varieties (e. g. spelt, rye, clover, poppy, field vegetables), documentation <i>A</i> : 120 (200) \notin /ha	Renouncement of fungicides and growth regulators in cereal crops <i>A</i> : 40 €/ha cereals

* Mandatory combination with measure "Environmentally sound and biodiversity-promoting management" or "Organic farming"

** Mandatory combination with measure "Environmentally sound and biodiversity-promoting management"

AUSTRIAN PROGRAMME TO PROMOTE AN ENVIRONMENTALLY SOUND, EXTENSIVE AND HABITAT-PROTECTING AGRICULTURE

Grassland	Others	
Renouncement of silage	Erosion protection for fruit, vineyards and hops	Animal welfare – grazing of livestock Art. 33 of EU Reg. 1305/2013
Renouncement of silage making and silage use, selling of cut crops only in the form of hay Mowed GL or arable forage: 80 €/ha 150 €/ha for dairy livestock keepers	Year-round, area-wide greening of machine tracks in vineyards, or- chards and hop fields or, at mini- mum, winter greening of hops and wine in case of a slope gradient < 25 %, documentation <i>P: 200 (100-800) €/ha fruit, wine,</i> <i>hops, depending on the variety</i>	At least 120 days of grazing of cattle, sheep or goats (between 01/04 and 15/11), documentation 55 €/LU, max. 4 LU/ha
Mountain grazing and herding	Pesticide renouncement in vineyards and hops	Animal welfare – stable (starting 2017) Art. 33 of EU Reg. No. 1305/2013
<u>Grazing</u> : min. 60 days on alpine pastures, max. 2.0 RLU/ha, closed nutrient cycle, renouncement of nitrogen fertilizers and pesticides (exempt: organic products, fertilizers) <u>Herding</u> : daily herding of animals <i>Alpine G:</i> 40 (50, 60) \in /ha, <i>Herding</i> 20-190 \in /LU	Mandatory participation in "Erosion protection for fruit, vineyards and hops", renouncement of <u>insecticides</u> and/or <u>herbicides</u> (combinable) <i>P: 250 €/ha (renouncement of</i> <i>insecticides)</i> <i>P: 250 €/ha (renouncement of</i> <i>herbicides)</i>	Increased total usable space in the stable, solid floor in laying area, soft bedding material, manipulable material, stable drawing and layout plan $180 \notin /LU$ for cattle $80 \notin /LU$ for breeding sows $65 \notin /LU$ for fattening pigs
Cultivation of mowed mountain grassland *	Use of beneficial organisms in greenhouses	Maintenance of endangered livestock breeds
<u>Steep slopes</u> > 50%: yearly mowing; <u>Mowed mountain grassland:</u> yearly mowing, renouncement of fertilizers (except farm manure) and pesticides <i>GL: Steep slopes</i> 370 $€/ha$ <i>GL: Mountain GL</i> 350-800 $€/ha$	Yearly, area-wide use of beneficial organisms in at least one green-house/polytunnel, which replaces pesticide use <i>GH:</i> 1,000 €/ha	Breeding and rearing of endangered animals (breeding list), e.g. <i>Pinzgauer, Murbodner, Grauvieh</i> cattle, <i>Brillenschaf, Gebirgsziege</i> ; Keeping period at least 01/04-31/12, documentation and reporting requirements <i>e.g. cattle:</i> 180/210/280 €/animal, depending on risk of extinction
Natura 2000-Agriculture Art. 30 of EU Reg. No. 1305/2013	Surface-near spreading of liquid farm manure and biogas manure	
Compliance with the relevant man- datory requirements for area man- agement and cultivation <i>GL</i> : 37-270 €/ha and depending on obligation	Surface-near spreading of at least 50 % of spread liquid farm manure, documentation using surface-near spreading equipment <i>A</i> , <i>GL</i> : 1 (1.20) \notin /m ³ , max. 30 m ³ /ha	

Abbreviations: GL = grassland/arable forage, A = arable land, P = permanent crops, GH = greenhouse, LSF = landscape features; (R)LU = (roughage eating) livestock units

Premium rates are shown for main premium rates (e.g. grassland with livestock husbandry, main arable crops). Further possible premium rates, which are applicable for particular crops or commitments, are shown in brackets.

TABLE OF CONTENTS

3	ÖPUL Farming eccologically – compensation for environmental services
5	ÖPUL for the Environment and Society
7	Environmental Objectives of the Austrian Agricultural Policy
	Rewarding Farmers for Added Environmental Services
	Meeting Challenges with Agricultural Environmental Services
11	General Conditions for the Development of ÖPUL 2015
	ÖPUL 2015 as a Key 14-20 RD Measure
	Goals and Priorities of ÖPUL 2015
17	Content-related Details of the Measures
19	Contribution to Genetic and Biological Diversity
21	Contribution to Soil Fertility
23	Contribution to Water Pollution Control
25	Contribution to Climate Change Adaptation and Climate Protection
27	Contribution to Animal Welfare
29	Contribution to the Preservation of the Cultivated Landscape
31	Challenges and Future Prospects
33	Overview of ÖPUL 2015 Measures

FURTHER INFORMATION

Website of the European Commission, Directorate-General Agriculture and Rural Development

Website of the Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW), Section Agri-Environment, Mountain Farmers and Less-Favoured Areas, Organic Farming

Website of the Agrarmarkt Austria (AMA)

Website of the Austrian Chamber of Agriculture (LKÖ)

Website of the National Networking Agency "*Netzwerk Zukunftsraum Land LE 14-20*" for the Austrian 2014-2020 Rural Development Programme

Website of the Institute for Adult Education in Rural Areas

Website of the Austrian Association for Agricultural Engineering and Land Use

Website of the Agricultural Research and Education Centre Raumberg-Gumpenstein (AREC)



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